

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-6 and 9-12 have been amended, claims 7-8 have been cancelled and claims 13-16 have been added as follows:

Listing of Claims:

Claim 1 (currently amended): ~~In a magnetic optical element having a Faraday rotator and a polarizer provided integrally on the light transmitting surface of the Faraday rotator;~~

~~a magnetic optical element characterized by being constituted of i) a Faraday rotator on each side of which an anti-reflection film has been formed and ii) a polarizer comprising photonic crystals which has been formed on one anti-reflection film~~ A single-type optical isolator characterized by having a magnetic optical element constituted of i) a Faraday rotator on each side of which an anti-reflection film has been formed and ii) a polarizer comprising photonic crystals which has been formed on one anti-reflection film of the former; and a glass polarizer so disposed as to be set opposite to the anti-reflection film of the Faraday rotator in the magnetic optical element on its side where the photonic crystals are not formed.

Claim 2 (currently amended): ~~A magnetic optical element for a broadband semidouble-type optical isolator[[,]] characterized in that a pair of magnetic optical elements according to claim 1 are respectively laminated to a one-sheet glass polarizer on its inside and outside in such a way that each polarizer comprising photonic crystals is provided on the outside~~ by having a one-sheet glass polarizer; and a pair of magnetic optical elements which are each constituted of i) a Faraday rotator on each side of which an anti-reflection film has been formed and ii) a polarizer comprising photonic crystals which has been formed on one anti-reflection film of the former, and are respectively

laminated to the glass polarizer on its inside and outside in such a way that each polarizer comprising photonic crystals is provided on the outside.

Claim 3 (currently amended): The ~~magnetic optical~~ isolator ~~element~~ according to claim 1 [[or 2]], wherein said photonic crystals are those obtained by alternately layering transparent high refractive index and low refractive index mediums on rows of periodic grooves or linear projections while keeping the shape of interfaces.

Claim 4 (currently amended): The ~~magnetic optical~~ isolator ~~element~~ according to claim 1 [[or 2]], wherein said photonic crystals are those obtained by forming periodic grooves by lithography.

Claim 5 (currently amended): The ~~magnetic optical~~ isolator ~~element~~ according to ~~any one of claims 1 to 4~~ claim 1, wherein an anti-reflection film has been formed on the surface of the polarizer comprising photonic crystals.

Claim 6 (currently amended): The ~~magnetic optical element~~ optical isolator according to ~~any one of claims 1 to 5~~ claim 1, wherein the outermost layer of said anti-reflection film on which the polarizer comprising photonic crystals is formed is an SiO₂ layer.

Claim 7 (cancelled)

Claim 8 (cancelled)

Claim 9 (currently amended): ~~[[An]] A single-type optical isolator characterized by having a substrate for placing thereon an optical isolator, a glass polarizer disposed on the substrate, the magnetic optical element according to claim 1 which has been so disposed on the substrate that the Faraday rotator side is set opposite to the glass polarizer, and a magnet which imparts a saturated magnetic field to the Faraday rotator~~ being constituted chiefly of a substrate for placing thereon an optical isolator; a magnetic optical element disposed on the substrate and constituted of i) a Faraday rotator on each side of which an anti-reflection film has been formed and ii) a polarizer comprising photonic crystals which has been formed on one anti-reflection film of the former; a glass polarizer so disposed on the substrate as to be set opposite to the anti-reflection film of the Faraday rotator in the magnetic optical element on its side where the photonic crystals are not formed; and a magnet which imparts a saturated magnetic field to the Faraday rotator in the magnetic optical element.

Claim 10 (currently amended): ~~[[An]] A single-type optical isolator characterized by having a sectionally U-shaped magnet, a glass polarizer disposed inside the U-portion of the magnet, and the magnetic optical element according to claim 1 which has been so disposed inside the U-portion that the Faraday rotator side is set opposite to the glass polarizer~~ being constituted chiefly of a sectionally U-shaped magnet; a magnetic optical element disposed inside the U-portion of the substrate and constituted of i) a Faraday rotator on each side of which an anti-reflection film has been formed and ii) a polarizer comprising photonic crystals which has been formed on one anti-reflection film of the former; and a glass polarizer so disposed inside the U-portion of the substrate as to be set opposite to the anti-reflection film of the Faraday rotator in the magnetic optical element on its side where the photonic crystals are not formed.

Claim 11 (currently amended): A broadband semidouble-type optical isolator characterized by ~~having a substrate for placing thereon an optical isolator, the magnetic optical elements for a semidouble-type optical isolator according to claim 2 which are disposed on the substrate, and a magnet which imparts a saturated magnetic field to each Faraday rotator of the magnetic optical elements for a semidouble-type optical isolator~~ being constituted chiefly of a substrate for placing thereon an optical isolator; a one-sheet glass polarizer disposed on the substrate; a pair of magnetic optical elements which are each constituted of i) a Faraday rotator on each side of which an anti-reflection film has been formed and ii) a polarizer comprising photonic crystals which has been formed on one anti-reflection film of the former, and are respectively laminated to the glass polarizer on its inside and outside in such a way that each polarizer comprising photonic crystals is provided on the outside; and a magnet which imparts a saturated magnetic field to each Faraday rotator of the magnetic optical elements.

Claim 12 (currently amended): A broadband semidouble-type optical isolator characterized by ~~having a sectionally U-shaped magnet, and the magnetic optical element for a semidouble-type optical isolator according to claim 2 which has been disposed inside the U-portion of the magnet~~ being constituted chiefly of a sectionally U-shaped magnet; a one-sheet glass polarizer disposed inside the U-portion of the substrate; and a pair of magnetic optical elements disposed inside the U-portion of the substrate which are each constituted of i) a Faraday rotator on each side of which an anti-reflection film has been formed and ii) a polarizer comprising photonic crystals which has been formed on one anti-reflection film of the former, and are respectively laminated to the glass polarizer on its inside and outside in such a way that each polarizer comprising photonic crystals is provided on the outside.

Claim 13 (new): The optical isolator according to claim 2, wherein said photonic crystals are those obtained by alternately layering transparent high refractive index and low refractive index mediums on rows of periodic grooves or linear projections while keeping the shape of interfaces.

Claim 14 (new): The optical isolator according to claim 2, wherein said photonic crystals are those obtained by forming periodic grooves by lithography.

Claim 15 (new): The optical isolator according to claim 2, wherein an anti-reflection film has been formed on the surface of the polarizer comprising photonic crystals.

Claim 16 (new): The optical isolator according to claim 2, wherein the outermost layer of said anti-reflection film on which the polarizer comprising photonic crystals is formed is an SiO₂ layer.